

IN THE CLAIMS

Please amend the claims as follows:

Claims 1 - 6 (Cancelled).

Claim 7 (Currently Amended): A bias voltage generating circuit, comprising:

a first current generating part generating a current;

a first transistor of a first conductivity type including a first current electrode to which a first potential is supplied through said first current generating part, a second current electrode and a control electrode;

a second transistor of a second conductivity type different from said first conductivity type including a first current electrode to which a second potential different from said first potential is supplied, a second current electrode connected with said second current electrode of said first transistor and a control electrode connected with said second current electrode of said first transistor, wherein

said current flows between said first and second current electrodes of said first transistor and between said first and second current electrodes of said second transistor,

a voltage signal is inputted to said control electrode of said first transistor,

a potential at said second current electrode of said second transistor functions as a first bias voltage,

said bias voltage generating circuit further comprising:

a second current generating part generating other current of a similar value to that of said current generated in said first current generating part;

a third transistor of said second conductivity type including a first current electrode to which said second potential is supplied through said second current generating part, a second current electrode and a control electrode, and

a fourth transistor of said first conductivity type including a first current electrode to which said first potential is supplied, a second current electrode connected with said second current electrode of said third transistor and a control electrode connected with said second current electrode of said third transistor, wherein

said other current flows between said first and second current electrodes of said third transistor and between said first and second current electrodes of said fourth transistor,

said voltage signal is inputted to said control electrode of said third transistor, and a potential at said second current electrode of said fourth transistor functions as a second bias voltage;

said first current generating part includes,

a current source generating a current of a certain value, and

a first current mirror circuit to which said first potential is supplied, generating a first mirror current of a similar value to that of said current generated in said current source and allowing said first mirror current flow to said first current electrode of said first transistor as said current; and

said second current generating part includes,

said current source,

a second current mirror circuit to which said first potential is supplied and generating a second mirror current of a similar value to that of said current generated in said current source, and

a third current mirror circuit to which said second potential is supplied, generating a third mirror current of a similar value to that of said second mirror current and allowing said third mirror current flow to said first current electrode of said third transistor as said other current;

said bias voltage generating circuit further comprising:

~~The bias voltage generating circuit according to claim 6, further comprising:~~

a fifth transistor of said first conductivity type standing between said second and third current mirror circuits and including a first and a second current electrodes and a control electrode, wherein

said second mirror current flows between said first and second current electrodes of said ~~sixth~~ fifth transistor, ~~[[and]]~~

said first current electrode of said fifth transistor is connected with said second current mirror circuit,

said second current electrode of said fifth transistor is connected with said third current mirror circuit; and

said voltage signal or other voltage signal is inputted to said control electrode of said ~~sixth~~ fifth transistor.

Claim 8 (Currently Amended): A bias voltage generating circuit, comprising:

a first current generating part generating a current;

a first transistor of a first conductivity type including a first current electrode to which a first potential is supplied through said first current generating part, a second current electrode and a control electrode;

a second transistor of a second conductivity type different from said first conductivity type including a first current electrode to which a second potential different from said first potential is supplied, a second current electrode connected with said second current electrode of said first transistor and a control electrode connected with said second current electrode of said first transistor, wherein

said current flows between said first and second current electrodes of said first transistor and between said first and second current electrodes of said second transistor,

a voltage signal is inputted to said control electrode of said first transistor,

a potential at said second current electrode of said second transistor functions as a first bias voltage,

said bias voltage generating circuit further comprising:

~~The bias voltage generating circuit according to claim 1, further comprising:~~

a ~~seventh~~ third transistor of said second conductivity type including a first current electrode to which said second potential is supplied, a second current electrode and a control electrode connected with said control electrode of said second transistor;

~~an eighth~~ a fourth transistor of said second conductivity type including a first current electrode connected with said second current electrode of said ~~seventh~~ third transistor, a second current electrode and a control electrode; and

a ~~ninth~~ fifth transistor of said first conductivity type including a first current electrode to which said first potential is supplied, a second current electrode connected with said second current electrode of said ~~eighth~~ fourth transistor and a control electrode connected with said second current electrode of said ~~eighth~~ fourth transistor, wherein

said second transistor and said ~~seventh~~ third transistor constitute a ~~fourth~~ first current mirror circuit,

said ~~fourth~~ first current mirror circuit generates other current of a similar value to that of said current,

said other current flows between said first and second current electrodes of said ~~eighth~~ fourth transistor and between said first and second current electrodes of said ~~ninth~~ fifth transistor,

said voltage signal is inputted to said control electrode of said ~~eighth~~ fourth transistor and

a potential at said second current electrode of said ~~ninth~~ fifth transistor functions as a second bias voltage.

Claim 9 (Cancelled).

Claim 10 (Currently Amended): A differential amplifier, comprising:
a bias voltage generating circuit, including:
a first current generating part generating a current;
a first transistor of a first conductivity type including a first current electrode to which
a first potential is supplied through said first current generating part, a second current
electrode and a control electrode;
a second transistor of a second conductivity type different from said first conductivity
type including a first current electrode to which a second potential different from said first
potential is supplied, a second current electrode connected with said second current electrode
of said first transistor and a control electrode connected with said second current electrode of
said first transistor, wherein
said current flows between said first and second current electrodes of said first
transistor and between said first and second current electrodes of said second transistor,
a voltage signal is inputted to said control electrode of said first transistor,
a potential at said second current electrode of said second transistor functions as a first
bias voltage,
said bias voltage generating circuit further comprising:
a second current generating part generating other current of a similar value to that of
said current generated in said first current generating part;

a third transistor of said second conductivity type including a first current electrode to which said second potential is supplied through said second current generating part, a second current electrode and a control electrode, and

a fourth transistor of said first conductivity type including a first current electrode to which said first potential is supplied, a second current electrode connected with said second current electrode of said third transistor and a control electrode connected with said second current electrode of said third transistor, wherein

said other current flows between said first and second current electrodes of said third transistor and between said first and second current electrodes of said fourth transistor,

said voltage signal is inputted to said control electrode of said third transistor, and a potential at said second current electrode of said fourth transistor functions as a second bias voltage; and wherein,

said differential amplifier further comprises:

~~A differential amplifier, comprising:~~

~~a bias voltage generating circuit according to claim 5,~~

a differential amplifier circuit having ~~an eleventh~~ a fifth transistor of said second conductivity type including a first and second current electrodes and a control electrode as a current circuit, and

other differential amplifier circuit having a ~~twelfth~~ sixth transistor of said first conductivity type including a first and second current electrodes and a control electrode as other current circuit, wherein

both a reference voltage signal and an input voltage signal are inputted to said differential amplifier circuit and said other differential amplifier circuit, respectively,

said reference voltage signal is also inputted to said control electrode of said first and fourth transistors as said voltage signal, respectively,

said first bias voltage is inputted to said control electrode of said ~~eleventh~~ fifth transistor, and

said second bias voltage is inputted to said control electrode of said ~~twelfth~~ sixth transistor.

Claim 11 (Currently Amended): A differential amplifier, comprising:

[[a]] the bias voltage generating circuit according to claim 8,

a differential amplifier circuit having a ~~thirteenth~~ fifth transistor of said second conductivity type including a first and second current electrodes and a control electrode as a current circuit, and

other differential amplifier circuit having a ~~fourteenth~~ sixth transistor of said first conductivity type including a first and second current electrodes and a control electrode as other current circuit, wherein

both a reference voltage signal and an input voltage signal are inputted to said differential amplifier circuit and said other differential amplifier circuit, respectively,

said reference voltage signal is also inputted to said control electrode of said first and ~~eighth~~ fourth transistors as said voltage signal, respectively,

said first bias voltage is inputted to said control electrode of said ~~thirteenth~~ fifth transistor, and

said second bias voltage is inputted to said control electrode of said ~~fourteenth~~ sixth transistor.